

TWO NEW SPECIES OF *SAPROSCINCUS* (REPTILIA: SCINCIDAE) FROM QUEENSLAND

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Saproscincus basiliscus (Ingram & Rawlinson, 1981), a small skink endemic to the rainforests of eastern Queensland, is a composite of three species. These are readily diagnosed by head scalation (suboculars; contact between second supralabial and lower preocular), measurements (SVL; length of original tail) and body scale counts (midbody and paravertebrals). Two species are restricted to northeastern Queensland — *S. basiliscus* (16°02'S - 19°28'S) and *S. lewisi* sp. nov. (15°04'S - 16°08'S). The third, *S. hannahae* sp. nov., is confined to mideastern Queensland (20°15'S - 21°32'S). Published genetic data show that these distributions are in accord with those of some other vertebrate and invertebrate taxa. □ *Saproscincus hannahae*, *Saproscincus lewisi*, *Scincidae*, rainforests, Queensland.

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Saproscincus Wells & Wellington, 1984 occurs in moist forest habitats of eastern Australia (Cogger, 1994). It currently contains seven species: *S. basiliscus* (Ingram & Rawlinson, 1981); *S. chalcengeri* (Boulenger, 1887); *S. czechurai* (Ingram & Rawlinson, 1981); *S. mustelinus* (O'shaughnessy, 1874); *S. rosei* Wells & Wellington, 1985; *S. spectabilis* (De Vis, 1888) and *S. tetradactylus* (Greer & Kluge, 1980). Three of these (*S. basiliscus*, *S. czechurai* and *S. tetradactylus*) belong to a distinct 'northern' lineage defined by the following synapomorphies: small size (maximum SVL = 47mm); a peculiar arrangement of nuchal scales; an elevated number of premaxillary teeth (13 or more); and a constant clutch size of two (Greer, 1989).

An examination of *Saproscincus basiliscus* specimens from the collections of the Queensland, Australian and South Australian Museums shows that this species, as currently recognised, contains three morphologically distinct populations, two of which represent undescribed taxa. The nominate form occurs in northeastern Queensland (NEQ) from Roaring Meg Valley (16°02'S, 145°21'E) to Mt Elliot (19°28'S, 146°57'E); one new species occurs from Mt Webb National Park (15°04'S, 145°01'E) to the Cape Tribulation area (16°08'S, 145°27'E) NEQ; the other, from Mt Dryander (20°15'S, 148°33'E) to East Funnel Ck (21°32'S, 149°09'E) mideastern Queensland (MEQ).

MATERIALS AND METHODS

All measurements were taken using Mitutoyo electronic callipers. Supraciliaries, supralabials, infralabials, and subdigital lamellae on the 4th toe were counted on both sides of specimens examined. The following mensural characters have been used: snout-vent length (SVL); axilla to groin (AG); tail length, vent to tip (TL); forelimb, axilla to tip of longest digit (L1); hindlimb, groin to tip of longest digit (L2); head length, tip of snout to anterior margin of ear (HL); head width, measured level with the posterior margin of the parietals (HW); snout, tip to anterior margin of orbit (S); eye to ear, posterior margin of orbit to mid, anterior margin of ear (EE). Premaxillary teeth were counted for QMJ58017 and 62437. Clutch size was recorded for QMJ25137, 25229, 24648, 53481 & 57899-900.

SYSTEMATICS

The new species described here can be assigned to the 'northern' lineage of *Saproscincus* by the following synapomorphies: maximum SVL 50mm (see remarks for *S. basiliscus*); the posterolateral edge of each parietal scale is usually bordered by a nuchal and two temporal scales (in some cases the posterior temporal scale is fused with the nuchal scale); 13 premaxillary teeth; and a constant clutch size of two (Greer, 1989). They are readily separated from *S. tetradactylus* by the number of digits on each forelimb (5 vs 4). From *S. czechurai* they are distinguished by the appearance of the breeding males (breeding colours not pronounced vs side of head and neck jet black



FIG. 1. *Saproscincus hannahae* sp. nov. (paratype, QMJ63911; QM photographic collection, image ref. NU908), Finch Hatton Gorge, Eungella NP, MEQ. (B. Cowell)

with some lighter speckling) and the shape of the snout (rounded vs pointed).

***Saproscincus hannahae* sp. nov.**
(Figs 1 & 2)

Lampropholis basiliscus Ingram & Rawlinson, 1981 (part).

ETYMOLOGY. Named for Hannah Couper.

MATERIAL. HOLOTYPE: QMJ57034, Chelmsford Rd, Eungella NP (21°00'S, 148°34'E) MEQ. PARATYPES: Queensland Museum. QMJ57899-901, Mt Dryander (20°15'S, 148°33'E); QMJ57008-10, Vine Ck (20°15'S, 148°32'E); QMJ35664, 58017, Mt Dryander (20°15'S, 148°33'E); QMJ49759, Conway NP, 20.17, 148.45; QMJ49709, Conway NP (20°18'S, 148°46'E); QMJ32758, 32760, 32766-71, 32780-83, 32794, Brandy Ck (20°21'S, 148°43'E); 58490, Repulse Ck, Conway (20°23'S, 147°46'E); QMJ57030, Puritan Bay (20°29'S, 148°52'E); QMJ59342-43, 61478-82, 61484-85, 61487-90, Mt Macartney (20°50'S, 148°34'E); QMJ49615, 49712, Eungella NP, Palm Valley Track (20°55'S, 148°30'E); QMJ49755, 63911, Eungella NP, Finch Hatton Gorge (20°55'S, 148°30'E); QMJ49756, Eungella NP (20°55'S, 148°30'E); QMJ56277, small knoll immediately WNW of Mt Ossa township (20°55'S, 148°48'E); QMJ53508, Mt Ossa/Ossa Ck, via Mirani (20°56'S, 148°49'E); QMJ53566-67, 53582-84, 53611-12, Coffee Ck, Mt Jukes, via Mackay (20°59'S, 148°57'E);

QMJ53435-39, St Helens Gap, via Mt Charlton (21°00'S, 148°43'E); QMJ53408-09, 53422-24, Mt Charlton, foothills, via Mt Charlton (21°01'S, 148°44'E); QMJ53481, Mt Blackwood NP, via Mackay (21°02'S, 148°56'E); QMJ32602, 32605, 34000-006, 34036, 34038-40, 34042, 34047, 34062, 34066, 34069, 34092-93, 34095-100, Finch Hatton NP (21°06'S, 148°38'E); QMJ49722, Eungella NP, Palm Valley track (21°09'S, 148°30'E); QMJ51126, 62770, Eungella NP, Broken R (21°10'S, 148°30'E); QMJ57067, Teemurra Ck, 8km S. of Finch Hatton (21°13'S, 148°36'E); QMJ53497, 53601, 53614, 53618-21, E Funnel Ck, 12-15km SW Sarina (21°32'S, 149°09'E). Australian Museum. AMR47868, Box Ck, Mt Dryander (20°14'S, 148°31'E); AMR87087-95, 9.15km W of Cathu SF office (20°51'S, 148°38'E); AMR87096, 7.4km E of Rd to Mandalay, via Airlie Beach-Shute Harbor Rd (20°17'S, 148°47'E); AMR87097-103, St Helen's Gap, 3.7km N of Mt Charlton by Rd (21°00'S, 148°42'E); AMR111572, Broken R, Eungella NP (21°10'S, 148°30'E). All localities are in MEQ.

DIAGNOSIS. *Saproscincus hannahae* sp. nov. can be confused only with *S. lewisi* sp. nov. and, to a lesser degree, with *S. basiliscus*. It does not occur in sympatry with either species. It can be distinguished from the former by its smaller size (max SVL = 38.4mm vs 42.3mm); length of the original tail (mean 130% SVL vs 161% SVL);

and the arrangement of the second supralabial and lower preocular scales (overlapping and in contact [Fig. 2] vs not in contact, 85% of specimens examined, or only in point contact).

From *S. basiliscus* it is distinguished by its paravertebral count (42-49 vs 50-59); subocular scalation (continuous series of subocular scales in contact with granules of lower eyelid always absent vs only rarely absent (Fig. 3), 3% of specimens examined); smaller size (max SVL = 38.4mm vs 49.8mm); length of original tail (mean 130% SVL vs 163% SVL), and midbody scale count (mean 22 vs 26).

DESCRIPTION. SVL (mm) 17.7-38.35 (mean = 32.3, N = 109). Proportions, (%SVL): AG = 41.4-56.6 (mean = 49.1, N = 100); TL = 113.2-146.6 (mean = 130.0, N = 29); L1 = 24.6-33.3 (mean = 28.9, N = 100); L2 = 34.0-45.5 (mean = 39.3, N = 100); HW = 12.8-16.7 (mean = 14.6, N = 100); HL = 20.4-27.0 (mean = 22.5, N = 100); S = 8.2-11.1 (mean = 9.7, N = 100); EE = 6.7-10.4 (mean = 8.5, N = 100). Nasals widely spaced, rostral and frontonasal in broad contact; prefrontals narrowly to moderately separated; maximum length of frontal 1.2-1.7 \times maximum width (mean = 1.5, N = 101); frontal contacting frontonasal, prefrontals, first two supraoculars and frontoparietals; supraoculars 4, second the largest; supraciliaries 6-8 (mean = 7.1, N = 205), first the largest; frontoparietals paired (rarely fused, or partially fused) and distinct from interparietal; enlarged nuchal scales 0-3; loreals 2; preoculars 2, the lower being the largest; presuboculars 2, the first being the largest; supralabials 6-7 (mean = 6.05, N = 212), fourth subocular when six, fifth subocular when seven; infralabials 5-6 (mean = 5.99, N = 211); postmental contacting two infralabials on each side; palpebral disc moderate, less than half the lower eyelid; ear opening small, round or vertically elliptic.

Midbody scale rows 20-24 (mean = 22.3, N = 114); number of scales in a direct line from mental to anal (inclusive) 48-57 (mean = 52.7, N = 75); paravertebral scales, from anterior-most nuchal to posterior margin of hindlimb 42-49 (mean = 47.0, N = 117); lamellae beneath fourth toe 16-22 (mean = 18.6, N = 195), with a medial groove on distal portion. Dorsal surface: fawn to reddish brown. Some scales with dark spots, forming broken, longitudinal lines on back. Lateral surface: flanks paler, weakly to heavily marked by dark flecks arranged in longitudinal rows. Sides clearly demarcated from dorsal surface by a prominent dorsolateral zone which runs as a broad brown bar between

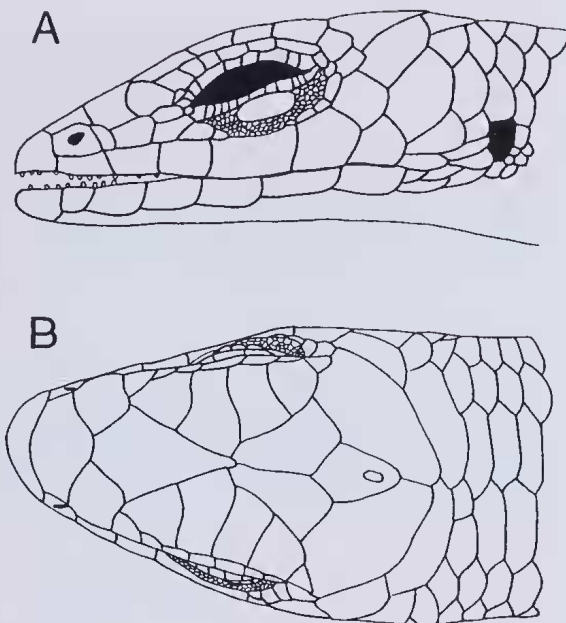


FIG. 2. Holotype of *Saproscincus hannahae* sp. nov. (QMJ57034). A, lateral view of head; B, dorsal view of head.

the eye and forelimb, then breaks into a row of dark spots along the upper flanks. In some specimens, this zone is bordered dorsally by a fine pale stripe. The sides merge evenly with the ventral colours. A distinct light spot is present at the posterior base of the thigh. Ventral surface: white, with dark flecks on throat and tail. Lower surfaces of hands and feet pale brown or whitish. Head: conspicuously marked by dark spots, which begin between the eyes and spread posteriorly to form a 'V' shaped marking on the frontoparietal and parietal scales. Lips barred.

The measurements and scale counts for the holotype (QMJ57034) are as follows: SVL = 33.68mm, AG = 17.34mm, TL = 49.37mm, L1 = 9.39mm, L2 = 13.77mm, HW = 4.94mm, HL = 7.69mm, S = 3.30mm, EE = 2.69mm. Maximum length of frontal 1.4 \times maximum width; supraciliaries 7; enlarged nuchal scales 2; supralabials 6; infralabials 6; midbody scale rows 22; number of scales in a direct line from mental to anal (inclusive) 54; paravertebral scales 48; lamellae beneath fourth toe 20/18.

DISTRIBUTION. Confined to rainforests of the Central Mackay Coast Biogeographic region (as defined by Stanton & Morgan, 1977). The broad distribution for this species extends from Mt Dryander, via Proserpine (20°15'S, 148°33'E) to E Funnel Ck, via Sarina (21°32'S, 149°09'E) MEQ.

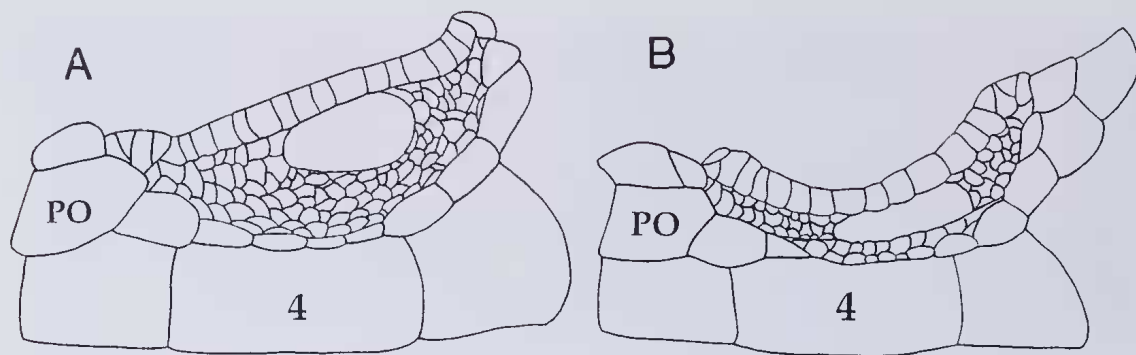


FIG. 3. Variation in the subocular scales of *Saproscincus basiliscus*. A, a continuous series of enlarged subocular scales, holotype (QMJ34409); B, enlarged subocular scales fail to meet beneath the orbit (QMJ52830). PO = preocular, 4 = 4th supralabial.

Disjunct populations occur at Mt Dryander (20°15'S, 148°33'E), Conway Ra. (20°27'S, 148°44'E), Clarke Ra. (21°10'S, 148°30'E), Mt Ossa/Mt Charlton area (21°00'S, 148°43'E), Mt Jukes (21°02'S, 148°57'E), Mt Blackwood (21°02'S, 148°56'E) and in the Connors Ra. (21°32'S, 149°12'E) (Fig. 4).

HABITAT. Complex notophyll and mesophyll vine forests.

HABITS. A secretive litter-skink which always remains close to cover. This species appears to be most common along creek margins.

CONSERVATION STATUS. Specimens of *S. hannahae* sp. nov. have been collected at more than 20 rainforest sites in coastal MEQ (20°15'S - 21°32'S). This species is common and well represented in existing reserves.

REMARKS. Recognition of *S. hannahae* sp. nov. is of note zoogeographically. Prior to the separation of *S. hannahae* from '*S. basiliscus*' sensu lato, the latter was the only reptile 'species' to span the 'Burdekin Gap' — the dry corridor which has separated faunas of NEQ (Wet Tropics Biogeographic Region) and MEQ (Central Mackay Coast Biogeographic Region) rainforest 'islands' for between one million years (e.g., three bird spp., Joseph et al., 1993) and, it is estimated, seven million years [e.g., *Saltuarius cornutus* (Ogilby, 1892)/*S. salebrosus* (Covacevich, 1975), C. Schneider, in press]. Thus, description of *S. hannahae* brings to six [*Phyllurus isis* Couper et al., 1993; *Phyllurus nephtys* Couper et al., 1993; *Phyllurus ossa* Couper et al., 1993; *Eulamprus amplus* (Covacevich & McDonald, 1980); *Eulamprus luteilateralis* (Covacevich & McDonald, 1980) and *S. hannahae*],

the number of obligatory rainforest reptile species confined to the Central Mackay Coast.

Ingram & Rawlinson (1981) recognised differences between the populations of *S. basiliscus* (as *Lampropholis basiliscus*) occurring in MEQ and NEQ. While the two populations were similar in colour, pattern and aspects of scalation, the MEQ specimens had a 'tendency to be slightly smaller

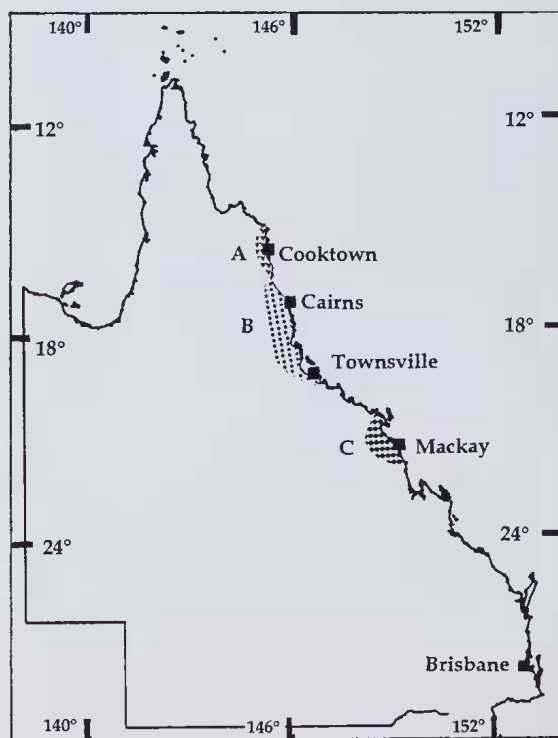


FIG. 4. Map of Qld showing the broad distributions of *S. lewisi* sp. nov. (A), *S. basiliscus* (B) and *S. hannahae* sp. nov. (C).



FIG. 5. *Saproscincus lewisi* sp. nov. (holotype, QMJ62440; QM photographic collection, image ref. NQ819), Shipton's Flat, NEQ. (J. Wright)

and "stubbier", and to have slightly lower mid-body and toe lamellae counts'. They regarded these differences as clinal, rather than warranting specific or subspecific recognition. Consequently, specimens of *S. hannahae* were included in the type series of *L. basiliscus*. The following specimens are paratypes of both species: QMJ32602, 32605, 32758, 32760, 32766-71, 32780-3, 32794, 34000-006, 34036, 34038-40, 34042, 34047, 34062, 34066, 34069, 34092-3, 34095-100. AMR47868, 87087-103.

***Saproscincus lewisi* sp. nov.**
(Figs 5 & 6)

Lampropholis basiliscus Ingram & Rawlinson, 1981 (part).

ETYMOLOGY. Named for Lewis Roberts, an Honorary Consultant of the Queensland Museum.

MATERIAL. HOLOTYPE: QMJ62440 (ethanol preserved), Parrot Ck, Shipton's Flat (15°48'S, 145°15'E) NEQ. PARATYPES: Queensland Museum. QMJ32354-55, Mt Webb NP (15°04'S, 145°07'E); QMJ24648, Helenvale, 13km S, Three Jims Ck, Bloomfield Rd (15°42'S, 145°17'E); QMJ60889, Big Tableland (15°43'S, 145°17'E); QMJ60887, O'Keefe Ck, Big Tableland (15°42'S, 145°16'E); QMJ24918, Home Rule, Slaty Ck, on banks (15°44'S, 145°18'E);

QMJ25137-38, Home Rule to Intake Falls, Home Rule S of Cooktown (15°44'S, 145°17'E); QMJ25229, 25308, Home Rule (15°44'S, 145°17'E); QMJ25257, Home Rule, nr Home Rule Camp, 30km S Cooktown (15°44'S, 145°17'E); QMJ25265, Mt Hedley slopes (15°44'S, 145°16'E); QMJ25289, Home Rule, nr, on Track to Granites (15°44'S, 145°18'E); QMJ25204, Granite Ck to Cedar Bay, on track (15°45'S, 145°20'E); QMJ24848, Mt Hartley, nr Home Rule, S of Cooktown (15°46'S, 145°19'E); QMJ17902, 62432-39, 62461, Shipton's Flat, 38km S Cooktown (15°48'S, 145°15'E); QMJ17903, Shipton's Flat, 32-48km S Cooktown (15°48'S, 145°16'E); QMJ27135, 27141, Shipton's Flat, Site 36 (15°48'S, 145°16'E); QMJ25301, 12 Mile Scrub, 60-121m, Gap Ck (15°50'S, 145°19'E); QMJ27258 12 Mile Scrub, Gap Ck, ca. 30km S Cooktown (15°51'S, 145°21'E); QMJ39436, Bloomfield (15°57'S, 145°20'E); QMJ49599, Roaring Meg R flats, China Camp, via Bloomfield (16°02'S, 145°18'E); QMJ41514, Cape Tribulation, 2.5km W (16°05'S, 145°27'E); QMJ42311, Cape Tribulation (16°05'S, 145°29'E); QMJ49547, Monkhouse Oliver, Mosaic Ck, TR165, Cape Tribulation area (16°12'S, 145°25'E). Australian Museum. AMR26833, Big Tableland (15°43'S, 145°17'E); AMR26783, Home Rule, Slaty Ck, on banks (15°44'S, 145°18'E). South Australian Museum.

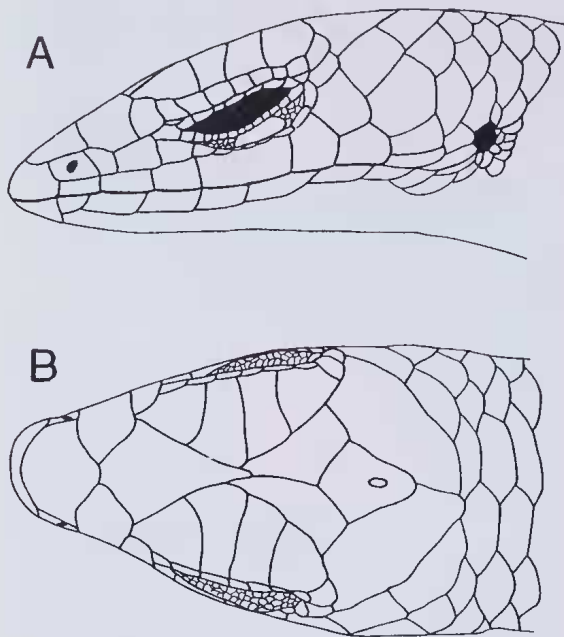


FIG. 6. Holotype of *Saproscincus lewisi* sp. nov. (QMJ62440). A, lateral view of head; B, dorsal view of head.

SAMR9770, Big Tableland (15°43'S, 145°17'E). All localities are in NEQ.

DIAGNOSIS. *Saproscincus lewisi* can be confused with only *S. hannahae* sp. nov. and, to a lesser degree, with *S. basiliscus*. Of these, it is geographically isolated from *S. hannahae*, and may occur in sympatry with *S. basiliscus* in the vicinity of Roaring Meg (16°02'S, 145°21'E) and Cape Tribulation (16°08'S, 145°27'E). It can be distinguished from the former by its larger size (max SVL = 42.3mm vs 38.4mm); length of the original tail (mean 161% SVL vs 130% SVL), and the arrangement of the second supralabial and lower preocular scales (not in contact, 85% of specimens examined [Fig. 6], or only in point contact vs overlapping and in contact).

From *S. basiliscus* it is distinguished by its smaller size (max SVL 42.3mm vs 49.8); paravertebral count (46-50 vs 50-59); and midbody count (mean 22 vs 26).

DESCRIPTION. SVL(mm) 23.48-42.34 (mean = 35.6, N = 39). Proportions, (%SVL): AG = 44.3-54.2 (mean = 47.6, N = 38); TL = 147.5-173.8 (mean = 160.6, N = 8); L1 = 26.7-33.3 (mean = 30.3, N = 38); L2 = 36.5-44.1 (mean = 41.1, N = 38); HW = 11.8-16.9 (mean = 13.9, N = 37); HL = 20.7-25.5 (mean = 22.7, N = 38); S = 8.4-11.3

(mean = 9.7, N = 38); EE = 7.4-9.7 (mean = 8.3, N = 38). Nasals widely spaced, rostral and frontonasal in broad contact; prefrontals narrowly to moderately separated; maximum length of frontal 1.2-1.6 × maximum width (mean = 1.5, N = 38); frontal contacting frontonasal, prefrontals, first two supraoculars and frontoparietals; supraoculars 4, second the largest; supraciliaries 5-8 (mean = 6.8, N = 78), first the largest; frontoparietals paired and distinct from interparietal; enlarged nuchal scales 0-2; loreals 2; preoculars 2, the lower being the largest; presuboculars 2, rarely 1, the first being the largest (mean = 1.98, N = 78); supralabials 6-7 (mean = 6.1, N = 78), fourth subocular when six, fifth subocular when seven; infralabials 5-6 (mean = 5.9, N = 78); postmental contacting 1-2 infralabials on each side (mean = 1.96, N = 78); palpebral disc moderate, less than half the lower eyelid; ear opening small, round or horizontally elliptic.

Midbody scale rows 22-24 (mean = 22.4, N = 39); number of scales in a direct line from mental to anal (inclusive) 52-59 (mean = 53.8, N = 37); paravertebral scales, from anterior-most nuchal to posterior margin of hindlimb 46-50 (mean = 47.9, N = 39); lamellae beneath fourth toe 19-25 (mean = 22.2, N = 71), with a medial groove on distal portion.

Dorsal surface: bronze to mid-brown with a few scattered, dark flecks. **Lateral surface:** flanks uniform brown, or marked with dark flecks arranged in longitudinal rows. Sides often sharply demarcated from dorsal surface by a prominent dorso-lateral zone which runs as a broad brown bar between the eye and forelimb, then continues as a fine line along the upper flanks, or breaks into a row of dark flecks. In some specimens, this zone is bordered dorsally by a fine pale stripe. The sides merge evenly with the ventral colours. A distinct light spot is present at the posterior base of the thigh. **Ventral surface:** white, with dark flecks on throat and tail, and occasionally on the belly. Lower surfaces of hands and feet pale brown or whitish. **Head:** marked by dark and pale spots. These sometimes form a weak 'V' shaped marking on the frontoparietal and parietal scales. Lips barred.

Measurements and scale counts for the holotype (QMJ62440) are as follows: SVL = 34.74mm, AG = 15.55mm, TL = 60.15mm, L1 = 11.58mm, L2 = 15.59mm, HW = 4.81mm, HL = 8.20mm, S = 3.57mm, EE = 3.07. Maximum length of frontal 1.5 × maximum width; supraciliaries 7/8; enlarged nuchal scales 1; supralabials 6; infralabials 6; midbody scale rows 22; number of scales in a direct line from mental

TABLE 1. A comparison of the measurements and scale counts from De Vis' (1888) description of *Mochoa spectabilis* with those of each of the putative 'syntypes'.

	<i>S. spectabilis</i>		<i>S. basiliscus</i>		
	De Vis	J244	J255	J19742	J19743
Total length (mm)	133	133	88.01	10.5	103.4
Head length (mm)	10.5	10.5	9.4	8.3	6
Head width (mm)	6	6	5.9	5	5.2
Body (mm)	42	39.7	33.7	29.7	32.4
Fore Limb (mm)	10.5	13.3	14.7	11.7	12.8
Hind limb (mm)	18	18.3	10.5	16.1	17.5
Tail (mm)	81.5	82.8	44.91	11.5	62
Supraciliaries	7	7	7	7	7
Midbody rows	22	22	28	28	26
Subdigital lamellae (4th toe)	20-24	23-25	21-23	19-20	20

to anal (inclusive) 52; paravertebral scales 48; lamellae beneath fourth toe 23/25.

DISTRIBUTION. From Mt Webb NP (15°04'S, 145°07'E) to the Cape Tribulation area (16°08'S, 145°27'E), NEQ (Fig. 4).

HABITAT. Complex notophyll vine forests.

HABITS. A secretive litter-skink which always remains close to cover. This species appears to be most common along creek margins.

CONSERVATION STATUS. Specimens of *S. lewisi* sp. nov. have been collected at more than 20 rainforest sites in coastal NEQ (15°04'S - 16°08'S). This species is common and well represented in existing reserves.

REMARKS. *Saproscincus lewisi* sp. nov., ranges from Mt Webb (15°04'S, 145°07'E) to Cape Tribulation (16°08'S, 145°27'E) NEQ, *S. basiliscus* from Roaring Meg (16°02'S, 145°21'E) to Mt Elliot (19°28'S, 146°57'E) NEQ, so there is at least a 15km zone of sympatry for these two species. The former is largely 'northern' and the latter largely 'southern' in relation to what has been termed the 'Black Mountain Barrier' (a low, discontinuity in the mesothermal rainforests of the uplands — near Kuranda, 16°49'S, 145°38'E, NEQ), a zone of separation for many obligatory rainforest species of snails, frogs, lizards and birds (Moritz et al., 1996). For the frogs and reptiles at least, this separation is in the order of 2-6 million years, based on genetic studies on: *Litoria genimaculata* (Horst, 1883); *Litoria nanotis* (Andersson, 1916); *Litoria rheocola* Liem,

1974; *Carphodactylus laevis* Günther, 1897; *Saltuarius cornutus* (Ogilby, 1892); and *Gnypetoscincus queenslandiae* (De Vis, 1890) (Schneider et al., in press). The most likely explanation for sympatry of *S. lewisi* and *S. basiliscus* is secondary contact, following reconnection of rainforests.

Ingram & Rawlinson (1981) included specimens of *S. lewisi* in the type series of *S. basiliscus* (as *L. basiliscus*). The following specimens are paratypes of both species: QMJ17902-03, 24648, 24848, 24918, 25137-8, 25204, 25229, 25257, 25265, 25289, 25301, 25308, 27135, 27141, 27258, 32354, AMR26783, 26833.

Saproscincus basiliscus (Ingram & Rawlinson, 1981) sensu stricto

DIAGNOSIS. With the recognition of *S. hanna-hae* sp. nov. and *S. lewisi* sp. nov., the following changes apply to the description of *S. basiliscus*: SVL = 20.14-49.79mm (mean = 38.6, N = 257). (% SVL) T = 141.9-186.5 (mean = 163.0, N = 39); L2 = 36.5-48.4 (mean = 42.9, N = 247).

Midbody scale rows 22-29 (mean = 25.9, N = 254); Paravertebral scale rows 50-59 (mean = 53.5, N = 255); Subocular scales enlarged and continuous 61% (Fig. 3A); small (distinctly larger than granules of lower eyelid) continuous 36%; enlarged suboculars not forming a continuous series beneath eye 3% (N = 259) Fig. 3B. For material examined see Appendix 1.

DISTRIBUTION. Broad distribution for this species extends from Roaring Meg (16°02'S, 145°21'E) to Mt Elliot (19°28'S, 146°57'E), NEQ (Fig. 4).

CONSERVATION STATUS. Throughout most of its range, *S. basiliscus* is a common species that is well represented in existing reserves. However, its status north of the 'Black Mountain Barrier' (16°49'S, 145°38'E) is difficult to assess from existing collections.

REMARKS. The definition provided by Greer (1989) for the 'northern' lineage of *Saproscincus* requires the following change to maximum SVL: 50mm (previously 47mm).

There has been some confusion regarding the type series of *M. spectabilis* De Vis, 1888. Covacevich (1971) identified four syntypes (QMJ244, 255, 19742-3) for this taxon. Subsequent authors followed her interpretation of the type material (Cogger et al., 1983; Wells & Wellington, 1985; Sadlier et al., 1993). Sadlier et al. (1993) found the syntypes to be composite, consisting of one *Saproscincus galli* Wells & Wellington, 1985 (QMJ244) and three *S. basilis-*

TABLE 2. A comparison of the paravertebral scale counts, and the presence (Y) or absence (N) of a continuous series of enlarged subocular scales for the types of *L. basiliscus* (QMJ3449), *S. hannahae* (QMJ57034), *S. lewisi* (QMJ62440) and the putative types of *M. spectabilis*. * = one side only.

Taxa	Paravertebrals	Suboculars
Types		
<i>L. basiliscus</i>	55	Y
<i>S. hannahae</i>	48	N
<i>S. lewisi</i>	48	Y
Putative types		
<i>M. spectabilis</i>		
QMJ244	54	N
QMJ255	57	Y
QMJ19742	56	Y
QMJ19743	54	Y*

cus (QMJ255, 19742-3). They concluded that the designation of QMJ19743 as the lectotype of *M. spectabilis* by Wells & Wellington (1985) meant '...that *Mocoo spectabilis* becomes a senior synonym of, and the available name for the taxon previously known as *Saproscincus basiliscus*'. This interpretation was refuted by Ingram (1994) who argued that De Vis' description of *M. spectabilis* was based on a single specimen (QMJ244). He concluded that '...*Mocoo spectabilis* is a senior synonym of the taxon previously known as *Saproscincus galli* Wells & Wellington, 1985 ... Also, *S. basiliscus* (Ingram & Rawlinson, 1981) remains valid'. We concur with Ingram (1994). Re-examination of the putative type/s for *M. spectabilis* confirms that QMJ244 was, at the very least, paramount in De Vis' (1888) description (Table 1).

Re-examination of the syntypes of *M. spectabilis* (QMJ255, 19742 and 19743) shows that these specimens agree in all respects with *S. basiliscus*. They can be assigned readily to the nominate form by their paravertebral scale counts and the presence of an enlarged series of subocular scales (Fig 3A, Table 2). The collection locality associated with these specimens (Gympie) is obviously in error.

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APPENDIX 1

Specimens of *Saproscincus basiliscus* examined in this study (259). Queensland Museum. QMJ58441, Roaring Meg Valley (16°02'S, 145°21'E); QMJ60732-33, Thornton Peak, N on Crib track from Daintree R. (16°06'S, 145°20'E); QMJ41727, Mt Ilemant, 6km SW Cape Tribulation (16°07'S, 145°25'E); QMJ43915, Hilda Ck, Thornton Peak, base (16°10'S, 145°23'E); QMJ49696 Oliver Ck, nr road crossing (16°12'S, 145°25'E); QMJ54323, Mt Molloy, 3km N (16°39'S, 145°20'E); QMJ52928, Kuranda (16°49'S, 145°38'E); QMJ55741, Kuranda (16°49'S, 145°38'E); QMJ61037, Saddle Mtn (16°49'S, 145°40'E); QMJ39429, Kuranda, 6km SE (16°52'S, 145°40'E); QMJ39430-31, 39433, Kuranda, 6km SE (16°52'S, 145°40'E); QMJ51951, NorthSouth Bell Peak Saddle, Malbon Thompson Ra (17°06'S, 145°54'E); QMJ48274-76, Danbulla SF, Kauri Ck, Mt Haig Rd (17°07'S, 145°38'E); QMJ48224, Danbulla SF, 1.5km along Kauri Rd (17°08'S, 145°37'E); QMJ12145, Atherton Tblld, Tinaroo Dam (17°10'S, 145°33'E); QMJ49548, Severin, Boar Pocket (17°11'S, 145°40'E); QMJ61041, Danbulla Sci. Res. (17°12'S, 145°4'E); QMJ49711, Gadgarra SF (17°16'S, 145°4'E); QMJ49733, Gadgarra SF (17°16'S, 145°41'E); QMJ12158, L Eacham (17°17'S, 145°37'E); QMJ49702, L Eacham (17°17'S, 145°37'E); QMJ49708, L Eacham NP (17°17'S, 145°37'E); QMJ61038, Graham Range (17°17'S, 145°58'E); QMJ39867-68, Bellenden Ker Ra, 0.5km S Cable Tower No 7 (17°2'S, 145°52'E); QMJ45920, Malanda (17°21'S, 145°36'E); QMJ39866, Bellenden Ker Landing, Russell R at landing (17°22'S, 145°58'E); QMJ45917, Russell R, cave site (17°22'S, 145°53'E); QMJ61040, Upper Plath Rd (17°23'S, 145°28'E); QMJ59161 Topaz, Westcott Rd (17°24'S, 145°41'E); QMJ47931-32, 47960, Mt Bartle Frere (17°24'S, 145°49'E); QMJ49700, Russell R, headquarters (17°24'S, 145°46'E); QMJ12146-47, 49704, 49710, Crater, Atherton Tblld (17°26'S, 145°29'E); QMJ49703, 49706, Boonjee, 6.5km ESE Lammers Hill (17°26'S, 145°46'E); QMJ59121, Hughes Road, Topaz (17°26'S, 145°42'E); QMJ59659 Tower nr Crater NP (17°27'S, 145°29'E); QMJ30810, Bartle Frere (17°27'S, 145°53'E); QMJ59649, Polly Ck (Hasenpusch) (17°28'S, 146°01'E); QMJ25450, Flying Fish Pt (17°3'S, 146°05'E); QMJ58921, nr Kennedy Hwy crossing of upper Barron R, 25km S of Atherton (17°32'S, 145°31'E); QMJ17435, Innisfail (17°32'S, 146°01'E); QMJ61058-59, Mt Fisher (Kjelberg Rd) (17°32'S, 145°33'E); QMJ43913, Innisfail, 25km W (17°37'S, 145°48'E); QMJ49697, Millstream NP (17°39'S, 145°27'E); QMJ34408-10, 47637, Charmillan Ck, via Ravenshoe (17°43'S, 145°31'E); QMJ48173-74, Walter Hill Ra, Charappa Ck drainage, Suttees Rd (17°43'S, 145°41'E); QMJ60892 Tully Valley, frog site (17°45'S, 145°35'E); QMJ48246-47, Forestry 'H' Rd, via Tully (17°45'S, 145°39'E); QMJ11161, 12159, Tully Falls (17°46'S, 145°34'E); QMJ48209, Billy Ck Bridge SF 758,

vicinity of bridge (17°49'S, 145°47'E); QMJ30811, Mission Beach (17°52'S, 146°06'E); QMJ51414, Kirrama Ra, BryceHenry Logging Area (18°01'S, 145°36'E); QMJ48373, Kirrama SF, Jennings Logging Area (18°04'S, 145°37'E); QMJ48369, Kirrama Ra, 2km N Kirrama Forest Stn (18°1'S, 145°43'E); QMJ48340, Kirrama Ra, Douglas Ck (18°13'S, 145°48'E); QMJ48348-49, Kirrama Ra, Kennedy Falls Logging road (18°13'S, 145°48'E); QMJ48362, Kirrama SF, Yaccabine Ck (18°13'S, 145°46'E); QMJ25022-59, 25061, Herbert Gorge (18°14'S, 145°32'E); QMJ25825-75, Cardwell (18°16'S, 146°01'E); QMJ45866, Hinchinbrook Is, Scraggy Pt (18°17'S, 146°06'E); QMJ48303, Mt MacAlister, Cardwell Ra (18°18'S, 145°56'E); QMJ48312, Cardwell Ra, Upp Broadwater Ck, Valley (18°18'S, 145°56'E); QMJ26375-76, Hinchinbrook Is, Ramsay Bay (18°19'S, 146°18'E); QMJ26330-32, Hinchinbrook Is (18°22'S, 146°15'E); QMJ44162, 44165, 44168, 44195-97, 44220, 44233, Hinchinbrook Is, Upp Gayundah Ck (18°22', 146°15'E); QMJ44169-72, 44190, 44200-13, 44216, Hinchinbrook Is, Gayundah Ck (18°22'S, 146°13'E); QMJ51409-10, Mt McAlister, 11km S (18°23'S, 145°56'E); QMJ48293, Mt Graham, 8km N Abergowrie (18°24'S, 145°52'E); QMJ51411-13, Cardwell Ra, Dalrymple Track (18°24'S, 146°04'E); QMJ45545, 45548, Mt Diamantina (18°25'S, 146°17'E); QMJ61304, Sword Ck catchment (18°27'30" S, 145°42'30"E); QMJ51415, Seaview Ra, 1st ek past Garawalt Ck Rd Xing (18°43'S, 145°44'E); QMJ49715, 49719-20, 49723, 49725-27, 49729-31 Mt Spec (18°57'S, 146°11'E); QMJ49716, Mt Spec, Little Crystal Ck (18°57'S, 146°11'E); QMJ29668, Mt Spec, Paluma (19°00'S, 146°12'E); QMJ49718, 49724, Paluma (19°00'S, 146°12'E); QMJ52995, 52997, Mt Halifax, summit ridge (19°06'S, 146°22'E); QMJ53032, Mt Halifax, 250m SE (19°06'S, 146°22'E); QMJ53039-40, Mt Halifax (19°06'S, 146°22'E); QMJ53041, Mt Halifax, 300m SE (19°06'S, 146°22'E); QMJ52996, Mt Halifax, 2.5km SE summit (19°07'S, 146°21'E); QMJ53034, Mt Halifax, 400m SE (19°07'S, 146°22'E); QMJ53035-36, Mt Halifax, 900m SE (19°07'S, 146°22'E); QMJ46774-75, Bluewater Ra, N of Townsville (19°11'S, 146°33'E); QMJ52828, 52831-33, Mt Elliot (19°28'S, 146°57'E); QMJ52830, Mt Elliot, 2km NNW of peak (19°28'S, 146°57'E); QMJ52814, 52835, 52837, Mt Elliot, 2km NW of peak (19°28'S, 146°57'E); QMJ52836, Mt Elliot, 4km NNW of peak (19°28'S, 146°57'E) QMJ59880 Cannabullen Plateau. Australian Museum. AMR56563-64, 56571, 56573 southern base of Thornton Peak (16°10'S, 145°23'E); AMR56589, 57129, Hilda Ck, southern base of Thornton Peak (16°10'S, 145°23'E); AMR59329 Thornton Peak (16°10'S, 145°23, AMR87080-81, on ridge running E-W between Thornton Peak and Daintree R (16°09'S, 145°21'E); AMR120420-22, Australian Museum- Queensland Museum rainforest survey site nr Thornton Peak (16°10'S, 145°23'E). South Australian Museum. SAMR22390, Kuranda (16°49'S, 145°38'E).